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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,483	11/01/2001	Jeffrey W. Carr	CARR-01000US2	2209
23910	7590	01/03/2007	EXAMINER	
FLIESLER MEYER LLP			OLSEN, ALLAN W	
650 CALIFORNIA STREET			ART UNIT	
14TH FLOOR			PAPER NUMBER	
SAN FRANCISCO, CA 94108			1763	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/03/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/002,483

**Applicant(s)**

CARR, JEFFREY W.

**Examiner**

Allan Olsen

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 30-33 and 35-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Claims 31-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and claims 30 and 35-41 are withdrawn as being directed to non-elected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 7, 2004.

With reference to their responses of February 11, 2005 and December 27, 2005, applicant again argues that claims 39-41 are not withdrawn. The examiner notes that claims 39-41 are directed to the planarization or shaping of a workpiece through a process that includes the simultaneous removal and deposition of material. This embodiment is disclosed in terms of an equilibrium that is established (pages 29-30, [0072]- [0074]). The election of species requirement of April 21, 2004 includes as one of the species - a method of shaping a surface by establishing an equilibrium in plasma chamber. The election of species requirement also required applicant to list all the claims that were readable on the elected species. In the facsimile transmission of July 14, 2004 applicant elected the species of "A method for shaping an optic", and applicant indicated that 34 and 2-29 were readable upon the elected species. Accordingly, and as indicated in all Office actions following the election, the examiner has withdrawn claims 30-33 and 35-41 from consideration.

### ***Terminal Disclaimer***

The terminal disclaimer filed on October 10, 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent 6,660,177 has been reviewed and is NOT accepted.

The person who signed the terminal disclaimer is not recognized as an officer of the assignee, and he/she has not been established as being authorized to act on behalf of the assignee. See MPEP § 324.

An attorney or agent, not of record, is not authorized to sign a terminal disclaimer in the capacity as an attorney or agent acting in a representative capacity as provided by 37 CFR 1.34 (a). See 37 CFR 1.321(b) and/or (c).

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6,660,177. Although the conflicting claims are not identical, they are not patentably distinct from each other.

The rejection is maintained pending receipt of an acceptable terminal disclaimer.

### ***Claim Objections***

Claim 29 is objected to because of the following informalities:

Claim 29 includes unusual/awkward phrasing, "using the precursor being any one of a solid, liquid, and gas".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-29 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

The newly recited "via sub-aperture plasma processing" is supported by the specification but the specification does not clearly set forth the exact meaning of this

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phrase. Must there be an aperture between the plasma torch and the workpiece through which the plasma plume must pass? With a plasma torch that comprises concentric tubes, would the torch's end in and of itself constitute an aperture?

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-14, 18, 20, 22-26 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,284,668 issued to Imahashi.**

Imahashi teaches polishing a substrate with an inductively coupled, atmospheric pressure plasma torch. Imahashi teaches generating a plasma discharge from argon or a mixture of argon and a reactive gas that serves as an etchant. Imahashi teaches controlling the flow of gases into the plasma torch. Imahashi teaches sub-aperture plasma processing. See: abstract; figures 2, 3, 5 and 7; column 1, lines 57-67; column 3, lines 51-56; column 4, lines 5-35; column 6, lines 31-33; and, column 8, lines 28-29.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 15-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imahashi as applied to claim 1 above and further in view of US Patent 6,218,640 issued to Selitser.**

Imahashi does not teach a torch comprising a plurality of concentric tubes.

Selitser teaches a plasma torch comprising a plurality of concentric tubes.

Selitser teaches providing a sheath gas to protect the central channel. Selitser teaches introducing the plasma gas tangentially (column 5, line 55 - column 6, line 15).

It would have been obvious to one skilled in the art to incorporate the nested tube configuration of Selitser because Selitser demonstrates that this provides an effective means of controlling the plasma discharge. By controlling the flow of gas through the different channels Selitser teaches that torch components can be shielded from the high temperature plasma. Selitser teaches the multi-tube torch provides a means of creating flow disturbance that results in more efficient mixing of gases and a more efficient coupling of plasma energy to the gases.

**Claims 17, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imahashi as applied to claim 1 above and further in view of US Patent 4,674,683 issued to Fabel.**

Imahashi does not teach introducing a precursor gas tangentially. Imahashi does not teach maintaining a plasma torch temperature of between 5000° and 15,000° C.

Fabel teaches introducing a plasma gas tangentially. Fabel teaches the temperature of plasma processes.

It would have been obvious one skilled in the art to introduce a plasma gas tangentially because Fabel teaches that provision of a tangential flow provides a degree of control over the amount of energy that is coupled into the plasma gas as well as the shape, position and length of the plasma plume (see column 5, line 55 - column 6, line 15). It would have been obvious to one skilled in the art to maintain the temperature of Imahashi's plasma torch to between 5000° and 15,000° C because Fabel teaches that this is the standard temperature range for plasma processes.

**Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imahashi as applied to claim 1 above and further in view of US Patent 6,105,534 issued to Siniaguine et al. (hereinafter, Siniaguine).**

Imahashi does not teach using a plasma torch with a multiple head.

Siniaguine teaches using a plasma torch with a multiple head.

It would have been obvious one skilled in the art to use a plasma torch with a multiple head because Siniaguine teaches that this increases efficiency.

***Response to Arguments***



Applicant's arguments filed October 10, 2006 have been fully considered but are moot in view of the new grounds of rejection.

However, to the extent that the arguments regarding Selitzer may be asserted against the new rejection the examiner provides the following remarks.

Applicant argues:

Selitzer teaches a Linear Plasma Torch (col. 4, lines 43-44), which creates a "large area plasma source" (col. 1, lines 45-47) that treats the entire surface of a workpiece. It cannot change the shape of the surface, however, because it etches everywhere equally. In contrast, the ICP torch taught in the present invention produces a "sub-aperture" plasma that can change the shape of the work-piece by differentially etching some areas more than others. Thus, the full aperture plasma treatment torch in Selitzer cannot anticipate the ICP torch for "sub-aperture" plasma treatment in claim 1

However, the examiner notes that figures 5 and 6 and column 8, lines 31-58 of Selitzer teach using circular torches, rather than linear torches, for localized surface treatment.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

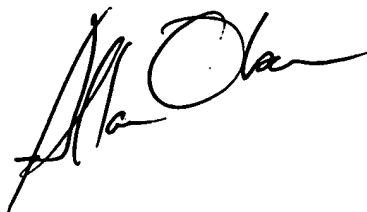
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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Olsen whose telephone number is 571-272-1441. The examiner can normally be reached on M, W and F: 1-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Allan Olsen', is written over a horizontal line.

Allan Olsen  
Primary Examiner  
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